

FIG. 1C

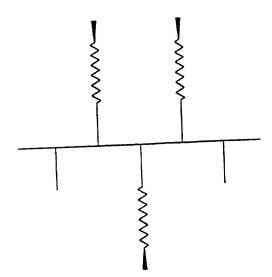


FIG. 1B

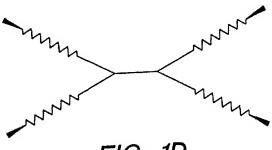


FIG. 1D

FIG. 1E

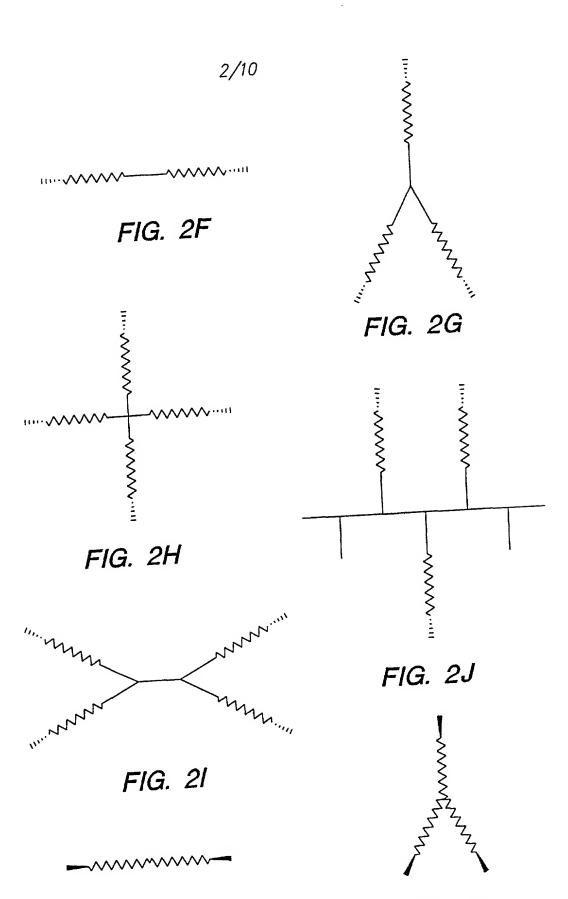


FIG. 3K

FIG. 3L

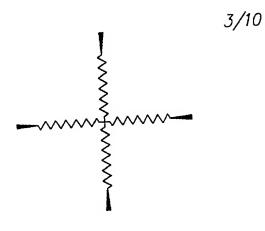


FIG. 3M

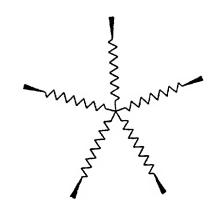


FIG. 30

FIG. 3N



FIG. 4P

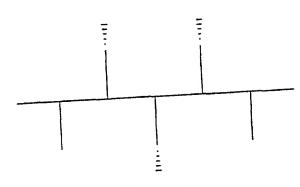


FIG. 4T

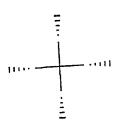


FIG. 4R

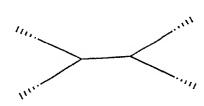


FIG. 4S



FIG. 5U



FIG. 5V

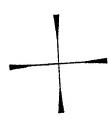


FIG. 5W

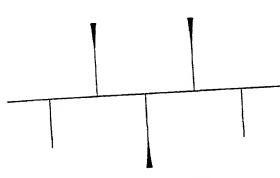


FIG. 5Y

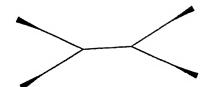


FIG. 5X

Water Soluble Fragments

FIG. 6

Hydroxy terminated biodegradable multifunctional polymer

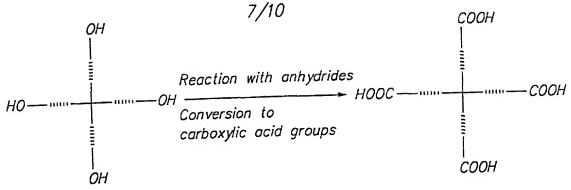
$$R = SO_2 - CI$$
Activation of R=CH<sub>2</sub>CF<sub>3</sub>(tresyl); CF<sub>3</sub>(trefyl); C6F<sub>5</sub>; C6H<sub>4</sub>CH<sub>3</sub>(tosyl)

Crosslinked polymer hydrogel

## FIG. 7

$$0$$
  $0$   $SO_3M$   $M=Na,K,Li$   $N-Hydroxysulfosuccinimide Ester  $0$$ 

FIG. 9



Hydroxy terminated 4 arm polymer like PEO-caprolactone DCC,NHS in polar solvents Activation with NHS  $NH_2$  $NH_2$  $H_2N$ 10 0 NH2 Amine terminated tetrafunctional PEG water buffered to pH 7 to 10 Crosslinking reaction Hydrolysis of biodegradable segments soluble fragments 0 0 FIG. 8

Water soluble degradation products

FIG. 10

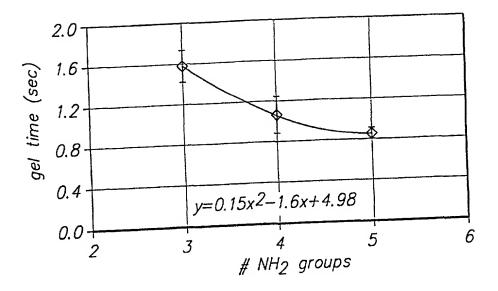


FIG. 11

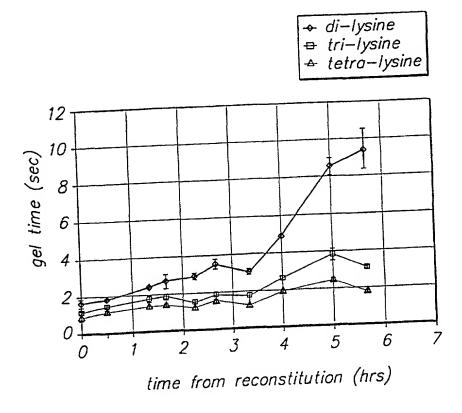


FIG. 12

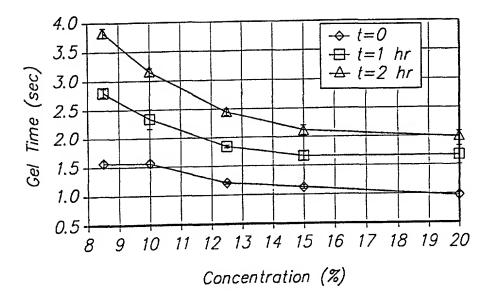


FIG. 13

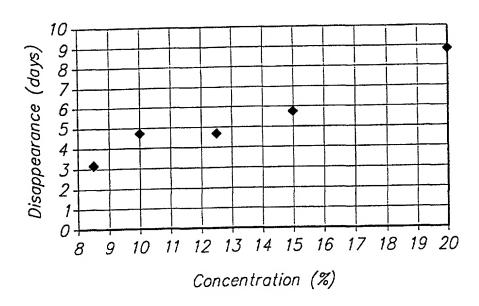


FIG. 14